

REMARKS

This amendment responds to the Office Action mailed February 28, 2003. Claims 25-27 and 29-34 are currently pending, and all of those claims stand rejected.

The Examiner rejected claims 25-27, 30 and 34 under 35 U.S.C. §102(b) in light of U.S. Patent No. 4,117,752 to Yoneda. Applicant traverses that rejection. Yoneda describes an "emergency system for stopping the endless band blade" of a band saw. That system includes an electric circuit intended to recognize "the electric charge potential" of a human body if an operator contacts the blade. The system also includes "an electromagnetic brake" to stop a pulley connected to a motor, and "an electromagnetic clamp brake" to clamp the band blade. However, Yoneda fails to disclose or suggest any system to urge a blade away from a work zone or to limit the movement of a blade into a work zone in the event a person accidentally contacts the blade, which is required by all of applicant's currently pending claims.

Specifically, claim 25, as amended, requires "a brake system to engage the blade upon detection of the dangerous condition between the person and the blade, and configured so that at least part of the angular momentum of the blade generates a force tending to urge the blade away from the work zone when the brake system engages the blade." This limitation is important to minimize any injury that may result from an accident with the saw. A spinning saw blade will have angular momentum, and when the blade is stopped suddenly, the angular momentum of the blade will create a force tending to move the blade. That force may cause the blade to move into the hand or finger of the person who accidentally contacted the blade, causing a more serious injury. Claim 25

addresses this problem by specifically requiring a brake system configured so that the angular momentum generates a force tending to urge the blade away from the work zone. Yoneda fails to teach or suggest any such limitation. In fact, Yoneda does not even recognize or discuss the problem of a blade jumping up into a user when a blade is stopped suddenly. Thus, claim 25 distinguishes Yoneda.

Prior to this amendment claim 25 required "a reaction system" instead of a "brake system." The "reaction system" was "configured to engage the blade upon detection of the dangerous condition between the person and the blade, and configured to use at least part of the angular momentum of the blade to generate a force tending to urge the blade away from the work zone." The Examiner, however, said those limitations "do not further limit the claimed invention because they are merely functional/intended use not defining any specific structure." Applicant disagrees with this point because there is no prohibition against functional language in claims (i.e., defining something by what it does rather than what it is), just as there is no requirement for claims to include specific structure. In fact, functional language is common in claim drafting. See, Manual of Patent Examining Procedure, §2173.05(g) [hereinafter MPEP]. Nevertheless, to address the Examiner's concern, applicant has amended claim 25 to require a "brake system to engage the blade," rather than simply a "reaction system." Applicant believes the amended "brake system" limitation clearly defines what applicant is claiming.

Claim 26 depends from claim 25 and distinguishes Yoneda for the same reasons that claim 25 distinguishes Yoneda. Claim 25 also requires a brake system "configured to stop the rotation of the blade."

Claim 27 describes a woodworking machine having several limitations, including “a brake system adapted to urge the blade away from the work zone upon the detection of the contact.” Yoneda fails to disclose or suggest any such limitation. Thus, claim 27 distinguishes Yoneda.

Claim 29 depends from claim 27 and distinguishes Yoneda for the same reasons that claim 27 distinguishes Yoneda. Claim 27 also specifies that the woodworking machine is a miter saw having a base, and the brake system is adapted to urge a blade upward relative to the base. Nothing in Yoneda discloses or suggests a brake system adapted to urge a blade upward relative to a base.

Claim 30 also depends from claim 27 and distinguishes Yoneda for the same reasons that claim 27 distinguishes Yoneda. Claim 27 also specifies that the brake system is adapted to engage and stop the blade.

Claim 34 (which depends from claim 31) describes a woodworking machine having several limitations, including “a brake system adapted to limit movement of the blade into the work zone upon the detection of the contact.” Again, as discussed, Yoneda fails to disclose or suggest any such limitation.

The Examiner also rejected claims 25-27, 30 and 34 under 35 U.S.C. §102(b) in light of U.S. Patent No. 3,785,230 to Lokey. Applicant traverses that rejection. Lokey describes an “automatic safety brake for rotary blade equipment.” The system in Lokey uses the blade of a saw as an antenna in an attempt to detect when a person approaches the blade. The Lokey system also includes “a cam brake” to stop the blade before the person actually contacts the blade. However, Lokey, like Yoneda, fails to disclose or

suggest any system to urge a blade away from a work zone or to limit the movement of a blade into a work zone in the event a person accidentally contacts the blade. In fact, the embodiments shown by Lokey do just the opposite, they create forces tending to urge the blade *into* the work zone, not away from the work zone, potentially increasing the severity of any injury. For example, Figures 1-5 in Lokey show a hand-held circular saw with a blade that spins counterclockwise relative to the view of the saw shown in Figure 1. The saw includes two cam brake members 24 that contact the sides of the blade at the front of the saw. When the brake members contact the blade, the angular momentum of the blade will urge the saw to move down, into the work zone, around the point where the cam brakes contact the blade. Figure 7 in Lokey shows a table saw with a blade that spins clockwise relative to the view shown in the figure. The saw includes a rubber wedge block 125 that moves into the blade to try and stop the blade. However, when the rubber wedge block contacts the blade, the angular momentum of the blade will tend to urge the blade up into the work zone. The blade will also try to climb the rubber wedge block, further urging the blade up. Again, the saws shown and described in Lokey do the opposite of what is set forth in applicant's claim 25.

All of claim 25-27, 30 and 34 require a brake system that either urges a blade away from a work zone or limits the movement of a blade into a work zone, and therefore all of those claims distinguish Lokey.

The Examiner also rejected claims 29, 32 and 33 under 35 U.S.C. §103(a) as obvious in light of Yoneda or Lokey. Applicant also traverses that rejection. The Examiner states that it would have been obvious to use the systems disclosed in Yoneda

and Lokey on miter saws as set forth in claims 29, 32 and 33. However, claim 29 requires a miter saw with a brake system "adapted to urge the blade upward relative to [a] base." Claims 32 and 33 require miter saws with brake systems that include "a pawl to engage the blade, and where at least part of the angular momentum of the blade limits the movement of the blade into the work zone when the pawl engages the blade." As discussed above, both Yoneda and Lokey fail to disclose or suggest brake systems that urge a blade upward relative to a base, or that limits the movement of the blade into a work zone. In fact, they fail to mention or even recognize the problem addressed in applicant's claims 29, 32 and 33. Thus, miter saws constructed as required by applicant's claims 29, 32 and 33 would not have been obvious in light of Yoneda or Lokey. Claim 33 also includes the limitation that the pawl be "adapted to engage the blade at a position on the front portion of the blade." In some embodiments, where the pawl engages the blade can be important to help limit the movement of the blade into the work zone. Nothing in Yoneda or Lokey discloses or suggests positioning a pawl to engage the blade at a position on the front portion of the blade in a miter saw.

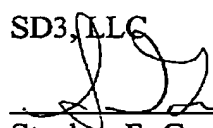
The Examiner also rejected claim 25-27 and 29-34 under 35 U.S.C. §103(a) as obvious in light of U.S. Patent No. 5,285,708 to Bosten combined with Yoneda or Lokey. Applicant traverses that rejection. Bosten discloses only a miter saw alignment system. It does not disclose brake systems as set forth in applicant's claims. Thus, the combination of Bosten with either Yoneda or Lokey would still fail to disclose or suggest brake systems that urge a blade away from a work zone or that limit the movement of a blade into a work zone, as required by applicant's pending claims.

The Examiner also provisionally rejected claims 25-27 and 29-34 under the judicially created doctrine of obviousness-type double patenting. Applicant traverses that provisional rejection. Applicant understands that this rejection may be withdrawn when it is the only rejection remaining in this application (see MPEP §804), and therefore applicant requests that the discussion of this rejection be postponed pending resolution of the issues discussed above.

Applicant thanks the Examiner for reviewing the Information Disclosure Statements. Applicant submitted an additional Information Disclosure Statement on February 23, 2003, listing U.S. Patent Nos. 3,947,734 to Fyler and 4,722,021 to Hornung et al. Applicant requests confirmation that the Examiner has considered those two references.

Respectfully submitted,

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I hereby certify that this correspondence is being facsimile transmitted to the U.S. Patent and Trademark Office, Attention: Examiner Boyer D. Ashley, Group Art Unit 3724, to facsimile number: (703) 872-9302 on March 24, 2003.



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Date of Signature: March 24, 2003